

## CENTRAL INTELLIGENCE AGENCY

## INFORMATION REPORT

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COUNTRY	East Germany	REPORT NO.		25X1
SUBJECT	Oils Produced at Lenna	DATE DISTR.	25 June 1953	
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PLACE ACQUIRED		REFERENCES		25X1

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.  
THE APPRAISAL OF CONTENT IS TENTATIVE.  
(FOR KEY SEE REVERSE)

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1. In the process of producing ester oils from higher alcohols and adipic acid,  
they fall within  
two groups; one group with a boiling range of 140 or 145 to 180°C and the second  
with a boiling range from 180 - 220°C. 25X1
  - 2.
  - 3.
- The laboratory from Leuna was removed to Gorki, and about one-half to two-thirds of the equipment for ester oil production was also removed to this same laboratory at Gorki. The remaining portion of the ester oil equipment was destroyed by bombing during the war.

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STATE	X	ARMY	X	NAVY	X	AIR	EV	X	FBI		AEC		OSI	Ev	X		
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(Note: Washington Distribution Indicated By "X", Field Distribution By "#".)

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4.

the synthetic oil showed little change with use. [redacted] on specific test equipment used to determine the qualities of this oil.

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[redacted] there were chemical and physical tests. The chemical tests included the determination of the acid norm, the ash value, the water formed, etc. The physical tests included the wear through use on bearings lubricated with these oils. The loss in weight showed the amount of wear.

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5.

[redacted] this oil has a low viscosity number-- about 140. [redacted]

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The number 140 indicates the viscosity index. [redacted] the viscosity is taken at 85°C and at 99°C and the viscosity index is determined from these two values. This index is determined according to the procedure of Unbelohde on viscosity. Viscosity index (VI) is calculated according to Kadmer.

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6.

[redacted] a type 2-A oil as a mixture of SS-906 and spindle oil, which is being used in the Soviet Zone as a turbine oil.

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This oil was definitely used for stationary type turbines and not for turbojet aircraft.

7.

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Type 2-A oil petroleum base spindle oil has been re-activated with a higher alcohol in the presence of hydrogen gas and aluminum chloride. I believe the unsaturated spindle oil is reduced by the hydrogen to make it more stable and this is then condensed with the higher alcohol by the elimination of water through the influence of the aluminum chloride catalyst. The SS-906 oil, which I have previously mentioned, is essentially a condensation product of a higher alcohol and a spindle oil.

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Comment.

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8.

[redacted] in 1949 ten tons of turbine oil were used per month at Leuna. During 1944 [redacted] less than this amount was required, but it was of a much better quality and lasted several times longer than did the oil produced in 1949.

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